UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,818	09/19/2003	Luke Martin Leonard Porter	014469-9015-00	6628

7590 04/13/2006		EXAMINER
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ART UNIT	PAPER NUMBER
2161	

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Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)
Office Action Summary	10/665,818	PORTER, LUKE MARTIN LEONARD
	Examiner	Art Unit	
	Etienne P. LeRoux	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 September 2003*.

2a)☐ This action is FINAL.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 September 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Claim Status

Claims 1-20 are pending. Claims 1-20 are rejected as detailed below.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The present abstract is not in narrative form and includes words such as "said."

Drawings

The drawings are objected to under 37 CFR 1.83(b) because they are incomplete. 37

CFR 1.83(b) reads as follows:

> When the invention consists of an improvement on an old machine the drawing must when possible exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to

the Office action to avoid abandonment of the application. Any amended replacement drawing

sheet should include all of the figures appearing on the immediate prior version of the sheet,

even if only one figure is being amended. The figure or figure number of an amended drawing

should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

must be removed from the replacement sheet, and where necessary, the remaining figures must

be renumbered and appropriate changes made to the brief description of the several views of the

drawings for consistency. Additional replacement sheets may be necessary to show the

renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action.

The objection to the drawings will not be held in abeyance. Figure 1 shows a time cube

with X time Axis 102, Y Time Axis 128 but the Z Axis is not identified. It is unclear if the Z

axis is a time axis.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with

the enablement requirement. The claim(s) contains subject matter which was not described in

the specification in such a way as to enable one skilled in the art to which it pertains, or with

which it is most nearly connected, to make and/or use the invention.

Claim 1 recites "when querying said database an appropriate said transaction time is used

so as to ensure that an appropriate value for said attribute is used." The specification does not

describe in a clear and concise manner the manner and process of creating "transaction time" such that a skilled artisan can make and use the invention. Particularly, applicant claims that transaction time is associated with a start time and an end time. The skilled artisan would not know how to reproduce the claimed "association."

Claim 5 recites "wherein a logical delete operation for a value of an attribute of an entity is achieved by an insert operation which sets the said value to Non Existent for a period in which it is intended to delete said attribute or value." The specification does not contain a clear and concise description of the manner and process of creating a "non existent value" such that a skilled artisan can make and use the invention.

Claims 2-11 are rejected for at least being dependent from a rejected base claim.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 provides for the use of: (1) an appropriate transaction time, (2) an appropriate value for the attribute, (3) appropriate valid start time and (4) appropriate end time, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 2-11 are rejected for at least being dependent from a rejected base claim.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 and 14 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a claimed utility or a well established utility. Applicant claims that transaction time, an appropriate value for an attribute, valid start time and valid end time is **used** (emphasis added) for an unclaimed purpose. Claim 1 is not directed to a practical application because it is unclear why applicant is querying the database because no particular result is obtained. There are four inputs to the query function but no results are retrieved from the database. Querying a database is the same as asking a question without getting an answer and thus such a query is an abstract idea because it is merely a mental process.

Furthermore, claim 1 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim 14 is rejected because applicant claims software per se which is not patentable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 7, 10-12 and 14-20 are rejected under 35 U.S.C. 102(e) as being anticipated

by US Pat No 6,754,657 issued to Lomet (hereafter Lomet).

Claims 1 and 16-19:

Lomet discloses:

i) having values of attributes of said entities in said database [col 1, lines 10-25];

ii) for said entities providing a valid time start time associated with each said value of said

attribute [col 1, lines 30-45];

iii) for said entities providing a valid time end time associated with each said value of said

attributes [col 1, lines 30-45]

iv) for said entities providing a transaction time associated with said valid time start time and

said valid time end time for each said value [col 1, lines 30-45]

v) when querying said database an appropriate said transaction time is used so as to ensure that

an appropriate value for said attribute is used and that appropriate valid time start and end times

are used [col 1, lines 60-67]

Claim 2:

Lomet discloses wherein said valid end time is provided by either: (i) storing said valid

end time entered in said database associated with said value for said attribute; or (ii) determining

said valid end time from a valid start time of another value of said attribute stored in said

database [col 1, lines 30-45].

Claim 7:

Lomet discloses providing entities in said database with time dependent values for

attributes in accordance with claim 1 and querying said database for a value for selected data

entity(s) [col 1, lines 10-25].

Claims 10-12, 14 and 15:

Lomet discloses wherein data relating to each specific data entity is held in corresponding

data-entity associated Time Cubes that comprise valid and transaction time related values for

different attributes in different attribute-slices of said Time Cube [col 1, lines 60-65]

Claim 20:

' Lomet discloses

locking the field being accessed for modification and not locking other fields in the row

that contains the field being accessed for modification, this being achieved by associating a

transaction time with the information in each field, said transaction time being related to the

system time at which the information was inserted into the database, permitting insert only

operations on the database, with alter and/or delete functionality performed by insert-only

addition of another value of an attribute held in a certain field in an additional field differentiated

from other fields for the same attribute by its associated transaction time, and selecting an

appropriate field for access by selecting an appropriate transaction time, as well as selecting said

attribute to be queried or modified [Fig 8]

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lomet in

view of Pub No 2003/0208490 issued to Larrea et al (hereafter Larrea).

Claims 3 and 4:

Lomet discloses the elements of claim 1/3 as noted above but does not disclose wherein

changes to said values are achieved by inserting new entries for linked transaction time, valid

time start time, valid time end time, and associated attribute value over a thereby specified valid

time period, there being no actual delete operator used to change said values. Larrea discloses

wherein changes to said values are achieved by inserting new entries for linked transaction time,

valid time start time, valid time end time, and associated attribute value over a thereby specified

valid time period, there being no actual delete operator used to change said values [paragraph

100]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lomet to include wherein changes to said values are achieved by inserting new entries for linked transaction time, valid time start time, valid time end time, and associated attribute value over a thereby specified valid time period, there being no actual delete operator used to change said values as taught by Larrea for the purpose of providing traceability in a clinical trial environment [paragraph 100].

Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lomet and Larrea and further in view of Pub No 2002/0107831 issued to Sturms et al (hereafter Sturms).

Claims 5 and 13:

The combination of Lomet and Larrea discloses the elements of claims 1 and 3 as noted above but does not disclose wherein a logical delete operation for a value of an attribute of an entity is achieved by an insert operation which sets the said value to Non Existent for a period in which it is intended to delete said attribute or value. Sturms discloses wherein a logical delete operation for a value of an attribute of an entity is achieved by an insert operation which sets the said value to Non Existent for a period in which it is intended to delete said attribute or value [paragraph 27]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify above combination of references to include wherein a logical delete operation for a value of an attribute of an entity is achieved by an insert operation which sets the said value to Non Existent for a period in which it is intended to delete said attribute or

value as taught by Sturms for the purpose of making smooth transversals in the database

[paragraph 27].

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lomet.

Claim 6:

Lomet discloses the elements of claim 1 as noted above but does not disclose said values

for data entries in a relational database. Official Notice is taken that a relational database is well-

known and expected in the art. It would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify Lomet to include said values for data entries in a

relational database for the purpose of organizing information in tables such that information

entry and retrieval is simplified.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lomet in

view of US Pat No 5,179,650 issued to Fukui et al, as best examiner is able to ascertain.

Claims 8 and 9:

Lomet discloses the elements of claims 1 and 7 as noted above but does not disclose

Temporal Data Dictionary having a set of objects associating specific entities in said database

with specific functionality-related parameters which are used in controlling how a processor

handles a query relating to said entities, said Temporal Data Dictionary maintaining data

integrity. Fukui discloses a rule dictionary 52 in Figure 1. It would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify Lomet to include Temporal

Data Dictionary having a set of objects associating specific entities in said database with specific

functionality-related parameters which are used in controlling how a processor handles a query

relating to said entities, said Temporal Data Dictionary maintaining data integrity based on the

teachings of Fukui for the purpose of creating a document editor [col 3, line 15].

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Etienne P. LeRoux whose telephone number is (571) 272-4022.

The examiner can normally be reached Monday through Friday between 8:00 am and 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jeffrey Gaffin can be reached on (571) 272-4146. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Etienne LeRoux

April 11, 2006